

energy innovation summit

2012feb 27-29 | washingtondc

Program & Showcase Information



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Program Highlights

- Technology Showcase:**
Over 240 organizations participating in the Energy Innovation Showcase! Meet the Nation’s top companies & research organizations transforming our energy economy.
- Pre-Summit Workshop:**
Meet with ARPA-E Program Directors to discuss agency priorities & future project opportunities (Monday, one-day program).
- Summit Program:**
Join the nation’s key players in energy innovation as we discuss advancements in Batteries, Fuels, Grid Storage, Efficiency, Power Electronics and U.S. Energy Innovation Initiatives!

MONDAY, FEBRUARY 27 - ARPA-E Technology Developers Workshop				
7:00 AM	Registration Open and Continental Breakfast, Foyer			
8:30 AM	Workshop Welcome and ARPA-E Primer, Hall A Arun Majumdar, ARPA-E, Director Shane Kosinski, ARPA-E, Deputy Director for Operations Cheryl Martin, ARPA-E, Deputy Director for Commercialization Eric Toone, ARPA-E, Deputy Director for Technology			
9:15 AM	ARPA-E Existing Programs and Future Directions			
	Zero Carbon Power, Hall A	Electrical Power Management, Hall 2	Electrical Storage, Hall C	Emerging Ideas, Hall 5
10:15 AM	Networking Break, Foyer			
10:30 AM	ARPA-E Existing Programs and Future Directions			
	Bioenergy, Hall A	Thermal Energy Systems, Hall 2	Energy Related Materials, Hall C	Emerging Ideas, Hall 5
11:30 AM	Networking Lunch, Expo Hall			
12:30 PM	Government Agency Networking Program, Expo Hall			
2:00 PM	The Scientific Method for Getting Technology to Market, Hall A			
3:00 PM	Networking Break, Foyer			
3:10 PM	ARPA-E University			
	Beyond the “Back of the Envelope,” Hall A	Demystifying Money: The Many Sources of Capital, Hall C	Telling Your Story: Successful Presentation Techniques, Hall 2	
4:10 PM	Rules of Engagement			
	The Grid, Hall C	Corporations, Hall 2	Defense, Hall A	
5:00 PM	Technology Showcase & Reception, Expo Hall			



Due to strict copyright enforcement, no photos, videos or sound recordings are allowed in any session rooms without express permission of Summit management. Those who do not comply will be escorted from the premises without refund. Thank you.

TUESDAY, FEBRUARY 28 - ARPA-E Energy Innovation Summit				
7:00 AM	Registration Open and Continental Breakfast, Foyer			
8:00 AM	Summit Open: Arun Majumdar, ARPA-E, Director, Hall A			
8:10 AM	Keynote Presentation: Steven Chu, U.S. Department of Energy, Secretary, Hall A			
8:30 AM	Congressional Comment and Introduction: Representative Steve Womack (AR)			
8:35 AM	Keynote Presentation: Lee Scott, BDT Capital Partners, Chairman; Walmart, Former CEO, Hall A			
9:00 AM	Congressional Comment and Introduction: Senator Lamar Alexander (TN)			
9:05 AM	Keynote Presentation: Frederick W. Smith, FedEx Corporation, Chairman, President and CEO, Hall A			
9:35 AM	Fireside Chat: Lee Scott, BDP Capital Partners, Chairman; Frederick W. Smith, FedEx Chairman, President and CEO, Hall A			
9:55 AM	Networking Break, Foyer			
10:10 AM	Performer Video, Hall A			
10:15 AM	Fireside Chat: Steven Chu, U.S. Department of Energy, Secretary; Bill Gates, Microsoft, Chairman, Hall A			
10:50 AM	Performer Video, Hall A			
11:00 AM	Keynote Presentation: Arun Majumdar, ARPA-E, Director, Hall A			
11:30 AM	Networking Lunch (11:30 - 12:30), Technology Showcase (12:30 - 1:45), Expo Hall			
1:45 PM	Breakout Panels			
	Future Grid: Beyond Smart Meters, Hall A	Barriers to Domestic Manufacturing, Hall C	Thinking Globally about Transportation, Hall 5	Financing the Future Electric System, Hall 2
3:10 PM	Networking Break, Foyer			
3:30 PM	Breakout Panels			
	Future Grid: Transforming Institutions, Hall A	Obstacles to a Manufacturing Workforce, Hall C	Thinking Globally about Access to Energy, Hall 5	Unleashing Biology for Energy, Hall 2
5:00 PM	Technology Showcase and Reception, Expo Hall			
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12:45 PM	Technology Showcase, Expo Hall			
2:15 PM	Breakout Panels			
	A Revolution in Information and Energy, Hall A	The Future of Financing Energy Efficiency, Hall 5	The Challenging Relationship between Energy, Water, and Agriculture, Hall C	Making the Most of the Natural Gas Boom, Hall 2
4:00 PM	Closing Remarks: Arun Majumdar, ARPA-E, Director, Hall A			
4:15 PM	Leadership Networking Reception, Hall A			
5:00 PM	Summit Close			

Workshop & Summit Program

MONDAY, FEBRUARY 27 - ARPA-E Technology Developers Workshop

7:00 AM	Registration Open	Foyer
8:30 AM	Workshop Welcome and ARPA-E Primer <ul style="list-style-type: none">• Arun Majumdar, ARPA-E, Director• Shane Kosinski, ARPA-E, Deputy Director for Operations• Cheryl Martin, ARPA-E, Deputy Director for Commercialization• Eric Toone, ARPA-E, Deputy Director for Technology	Hall A
9:15 AM	ARPA-E Existing Programs and Future Directions <p>Focused sessions, presented by the ARPA-E Program Directors, Fellows and Technology to Market Advisors, about existing program directions and exploring emerging technology innovation areas in discussion with the audience.</p> Zero Carbon Power <ul style="list-style-type: none">• Mark Hartney, ARPA-E, Program Director• Karma Sawyer, ARPA-E, Assistant Program Director Electrical Power Management <ul style="list-style-type: none">• Rajeev Ram, ARPA-E, Program Director• Timothy Heidel, ARPA-E, Fellow Electrical Storage <ul style="list-style-type: none">• Dane Boysen, ARPA-E, Program Director• Mark Johnson, ARPA-E, Program Director Emerging Ideas <ul style="list-style-type: none">• David Danielson, ARPA-E, Program Director• Nicholas Cizek, ARPA-E, Fellow• Robert Conrado, ARPA-E, Fellow• Asegun Henry, ARPA-E, Fellow• Amul Tevar, ARPA-E, Fellow	Hall A Hall 2 Hall C Hall 5
10:15 AM	Networking Break	Foyer
10:30 AM	ARPA-E Existing Programs and Future Directions <p>Focused sessions, presented by the ARPA-E Program Directors, Fellows and Technology to Market Advisors, about existing program directions and exploring emerging technology innovation areas in discussion with the audience.</p> Bioenergy <ul style="list-style-type: none">• Eric Toone, ARPA-E, Deputy Director for Technology• Jonathan Burbaum, ARPA-E, Program Director Thermal Energy Systems <ul style="list-style-type: none">• Ravi Prasher, ARPA-E, Program Director• Ilan Gur, ARPA-E, Senior Advisor for Commercialization• Karma Sawyer, ARPA-E, Assistant Program Director Energy Related Materials <ul style="list-style-type: none">• Mark Johnson, ARPA-E, Program Director• Amul Tevar, ARPA-E, Fellow Emerging Ideas <ul style="list-style-type: none">• David Danielson, ARPA-E, Program Director• Nicholas Cizek, ARPA-E, Fellow• Robert Conrado, ARPA-E, Fellow• Asegun Henry, ARPA-E, Fellow• Timothy Heidel, ARPA-E, Fellow	Hall A Hall 2 Hall C Hall 5
11:30 AM	Networking Lunch	Expo Hall

12:30 PM	Government Agency Networking Program <div> <div>Connect with the leadership and program directors from the nation's leading agencies focused on energy innovations.</div> <div> <ul style="list-style-type: none"> - ARPA-E - DOE Office of Science - National Science Foundation - DOD Environmental Research Programs (SERDP/ESTCP) - U.S. Department of Agriculture (USDA) </div> <div> <ul style="list-style-type: none"> - U.S. Army - U.S. Navy - U.S. Air Force - National Institute of Standards and Technology - U.S. Small Business Administration </div> <div> <ul style="list-style-type: none"> - DOE Office of Energy Efficiency and Renewable Energy - DOE Tech Team - Batteries - DOE Tech Team - Carbon Capture - DOE Tech Team - Grids - DOE Tech Team - SunShot </div> </div>	Expo Hall
2:00 PM	The Scientific Method for Getting Technology to Market <div> <div>Great technologies don't automatically attract users and thrive in the real world. Successful entrepreneur and professor, Steve Blank will show how hypothesis-driven discovery and experimentation can turn your innovations into successful products with societal impact. Learn how to hone in on the true value of your technology through early and effective engagement with customers.</div> <ul style="list-style-type: none"> • Steve Blank, Entrepreneur </div>	Hall A
3:00 PM	Networking Break	Foyer
3:10 PM	ARPA-E University <div> <div>Beyond the "Back of the Envelope"</div> <div> <div>Intuition and curiosity are a research scientist's most powerful tools, but relying on instinct can be detrimental to moving a practical technology toward the market. Any successful technology project must correctly evaluate cost and performance tradeoffs, and it is never too early to start. A123 and 24M Founder Yet-Ming Chiang will share the wisdom he has gained on how to best use system modeling to successfully take technologies from lab to market.</div> <ul style="list-style-type: none"> • Ryan Boas, 24M Technologies, Inc., Vice President, Business Development • Yet-Ming Chiang, Massachusetts Institute of Technology, Kyocera Professor, Department of Materials Science & Engineering </div> </div> <div> <div>Demystifying Money: The Many Sources of Capital</div> <div> <div>Taking technology to the next level means navigating a confusing range of financing options: venture capital, angel investors, government grants, bank loans, and much more. Lux Research founder and venture investor, Matthew Nordan will explain the different types of capital available to early stage technologists, what each looks for to make an investment decision, and what they want in return.</div> <ul style="list-style-type: none"> • Matthew Nordan, Venrock, Vice President </div> </div> <div> <div>Telling Your Story: Successful Presentation Techniques</div> <div> <div>From the elevator pitch to your TED talk, the difference between success and failure often depends on the story you tell and how you tell it. This session will focus on honing your message to connect with any audience and leave a lasting impression in their minds.</div> <ul style="list-style-type: none"> • David Merkoski, Greenstart, Partner and CCO </div> </div>	Hall A
4:10 PM	Rules of Engagement <div> <div>Developing world-changing technologies and products requires active engagement with your market every step of the way, but it's not always easy to figure out who exactly you should be meeting with, how to reach them, and what message will stick. Our "Rules of Engagement" sessions offer perspectives directly from industry representatives on how to best engage with them and successfully navigate key energy markets.</div> </div> <div> <div>The Grid</div> <div> <div>Perspective 1: Engaging directly with regulated utilities, Perspective 2: Approaching and influencing the PUCs and FERC, Perspective 3: Working with independent power producers</div> <ul style="list-style-type: none"> • Michael Adams, Constellation Energy, Vice President of Corporate Strategy • Ron Binz, Colorado Public Utilities Commission, Former Chairman • Chantal Hendrzak, PJM Interconnection, Director-Applied Solutions • David Julius, Duke Energy, Technology & Business Development </div> </div>	Hall C

Workshop & Summit Program *Continued*

MONDAY, FEBRUARY 27 - ARPA-E Technology Developers Workshop *Continued*

4:10 PM	Rules of Engagement <i>Continued</i>	
	Corporations	Hall 2
	Perspective 1: Talking technology beyond the R&D group, Perspective 2: Corporate venture capital as an entry point, Perspective 3: How open innovation is making corporations more accessible	
	<ul style="list-style-type: none">• Farshid Arman, Siemens Technology-to-Business Center, Director of Energy Technologies• Pulakesh Mukherjee, BASF Venture Capital America, Inc., Principal• David Parekh, United Technologies Research Center, Vice President, Research, and Director	
	Defense	Hall A
	Perspective 1: What the DOD labs can do for you, Perspective 2: Defense contractors as shepherds of new technology	
	<ul style="list-style-type: none">• Col. Robert Charette, United States Marine Corps, Expeditionary Energy Office, Director• John Fischer, Office of the Assistant Secretary of Defense for Research and Engineering, Defense Laboratories Enterprise, Director• Peter Morico, Raytheon Integrated Defense Systems, Engineering Fellow	
5:00 PM	Technology Showcase & Reception	Expo Hall
	Come meet with the companies and research organizations poised to transform our energy economy, including recent ARPA-E award winners, finalists and other leading transformational technologies. Also visit the booths of most of the federal agencies and programs supporting energy innovation and commercialization in the U.S. Open to All Registered Attendees - Showcase closes at 8:00 pm	

TUESDAY, FEBRUARY 28 - ARPA-E Energy Innovation Summit

7:00 AM	Registration Open	Foyer
	All sessions in the Gaylord National Convention Center - Potomac Ballrooms.	
8:00 AM	Summit Open	Hall A
	<ul style="list-style-type: none">• Arun Majumdar, ARPA-E, Director	
8:10 AM	Keynote Presentation	Hall A
	<ul style="list-style-type: none">• Steven Chu, U.S. Department of Energy, Secretary	
8:30 AM	Congressional Comment and Introduction	Hall A
	<ul style="list-style-type: none">• Representative Steve Womack (AR)	
8:35 AM	Keynote Presentation	Hall A
	<ul style="list-style-type: none">• Lee Scott, BDT Capital Partners, Chairman; Walmart, Former CEO	
9:00 AM	Congressional Comment and Introduction	Hall A
	<ul style="list-style-type: none">• Senator Lamar Alexander (TN)	
9:05 AM	Keynote Presentation	Hall A
	<ul style="list-style-type: none">• Frederick W. Smith, FedEx Corporation, Chairman, President and CEO	
9:35 AM	Fireside Chat	Hall A
	<ul style="list-style-type: none">• Moderator - John Podesta, Center for American Progress, Chair and Counselor• Lee Scott, BDT Capital Partners, Chairman; Walmart, Former CEO• Frederick W. Smith, FedEx Corporation, Chairman, President and CEO	
9:55 AM	Networking Break	Foyer
10:10 AM	Performer Video	Hall A
10:15 AM	Fireside Chat	Hall A
	<ul style="list-style-type: none">• Moderator - John Podesta, Center for American Progress, Chair and Counselor• Steven Chu, U.S. Department of Energy, Secretary• Bill Gates, Microsoft, Chairman	

10:50 AM	Performer Video	Hall A
11:00 AM	Keynote Presentation • Arun Majumdar , ARPA-E, Director	Hall A
11:30 AM	Networking Lunch	Expo Hall
12:30 PM	Technology Showcase	Expo Hall
1:45 PM	Future Grid: Beyond Smart Meters Examining technologies, institutions, and markets that will determine if we can move the electricity grid beyond smart meters. • Moderator - Rajeev Ram , ARPA-E, Program Director • Paul De Martini , Newport Consulting Group, LLC, Managing Director • Deepak Divan , Varentec, President and CTO • Arshad Mansoor , Electric Power Research Institute (EPRI), Senior Vice President, Research and Development • Andrew Ott , PJM, Senior Vice President, Markets	Hall A
	Barriers to Domestic Manufacturing What are the key barriers for domestic manufacturing? What are the real-world factors that make domestic manufacturing a challenge? • Moderator - Leo Christodoulou , U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Advanced Manufacturing Office, Program Manager • Christine Furstoss , General Electric Global Research Center, Manufacturing and Materials Global Domain Leader • Matthew Ganz , Boeing Research & Technology, Vice President and General Manager • Atul Kapadia , Envia Systems, CEO • Bruce Sohn , MEGE Associates, Principal	Hall C
	Thinking Globally about Transportation Taking a systems view of transportation energy in a global context. • Moderator - Bryan Walsh , TIME Magazine, Senior Writer • Lawrence Burns , University of Michigan, Professor of Engineering Practice; Columbia University, Director of Program on Sustainable Mobility • Michael Ramage , ExxonMobil Research and Engineering, Executive Vice President (Retired) • John Viera , Ford Motor Company, Director, Sustainability & Vehicle Environmental Matters	Hall 5
	Financing the Future Electric System New power generation technologies face high capital costs and other challenges on the road to market. What will it take to draw more capital investment to next-generation technologies? How can we encourage capital markets to provide low-cost, large-scale financing? • Moderator - Coral Davenport , National Journal, Energy and Environment Correspondent • Stuart Bernstein , Goldman Sachs & Co., Head and Partner Clean Technology and Renewables Business • Michel Di Capua , Bloomberg New Energy Finance, Head of U.S. Analysis • Bob Hemphill , AES Solar Power Ltd., CEO • Jacob Susman , OwnEnergy, Founder and CEO	Hall 2
3:10 PM	Networking Break	Foyer
3:30 PM	Future Grid: Transforming Institutions Modernizing and transforming our electric grid will require a significant change to current grid institutions. What novel business models and other institutional solutions exist to take advantage of new grid technology? • Moderator - Paul Hibbard , Analysis Group, Vice President • Richard Kauffman , U.S. Department of Energy, Senior Advisor to the Secretary of Energy • Kristin Mayes , Arizona State University, Professor of Practice, Faculty Director, Program on Law and Sustainability • Clair Moeller , Midwest Independent Transmission System Operator, Inc., Vice President of Transmission Asset Management	Hall A

Workshop & Summit Program *Continued*

TUESDAY, FEBRUARY 28 - ARPA-E Energy Innovation Summit *Continued*

3:30 PM	Obstacles to a Manufacturing Workforce What skill sets will be required for the future economy, and how can the U.S. fill the gap to meet those needs? <ul style="list-style-type: none">• Moderator - Bart Gordon, K&L Gates, Partner; Former Representative from Tennessee• Stefan Heck, McKinsey & Co., Director, Leader of Global Cleantech Practice• Carrie Houtman, The Dow Chemical Company, Senior Public Policy Manager• Van Ton-Quinlivan, California Community Colleges Chancellor's Office, Vice Chancellor for Workforce and Economic Development• Deborah Wince-Smith, The Council on Competitiveness, President & CEO	Hall C
	Thinking Globally about Access to Energy What do we need to make affordable electricity accessible to everyone in the world? <ul style="list-style-type: none">• Moderator - Chris Hartshorn, Lux Research, Vice President - Research• Nawal Al-Hosany, Zayed Future Energy Prize, Director; Masdar, Director of Sustainability• Ashok Gadgil, University of California at Berkeley, Professor; Lawrence Berkeley National Laboratory, Director of the Environmental Energy Technologies Division• Russell Sturm, International Finance Corporation, Head, Climate Change Advisory• Johanna Wellington, GE Global Research, Advanced Technology Leader – Sustainable Energy	Hall 5
	Unleashing Biology for Energy What has limited the use of biology in energy? Can those limitations be overcome to make biology transformational? <ul style="list-style-type: none">• Moderator - George Whitesides, Harvard University, Woodford L. and Ann A. Flowers University Professor• George Church, Harvard Medical School, Professor of Genetics; Harvard and Massachusetts Institute of Technology, Professor of Health Sciences and Technology• Aristides A. N. Patrinos, Synthetic Genomics, Inc., Senior Vice President, Corporate Affairs• Martha Schlicher, Monsanto Company, Vice President Bioenergy	Hall 2
5:00 PM	Technology Showcase & Reception Open to All Registered Attendees - Showcase closes at 8:00 pm	Expo Hall

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10:20 AM	Performer Video	Hall A
10:25 AM	Fireside Chat <ul style="list-style-type: none">• Moderator-Steve Clemons, The Atlantic, Editor at Large• Ursula Burns, Xerox Corporation, Chairman and CEO• Susan Hockfield, Massachusetts Institute of Technology, President	Hall A

10:45 AM	Networking Break	Foyer
11:00 AM	Congressional Perspective • House Minority Leader Nancy Pelosi (CA)	Hall A
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12:00 PM	Networking Lunch	Expo Hall
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2:15 PM	A Revolution in Information and Energy What can the IT revolution teach us about energy? What are the energy issues in information and communication technology? • Moderator - Vint Cerf , Google, Vice President and Chief Internet Evangelist • Anita Jones , University of Virginia, Professor; ATS Corporation, Director • Shwetak Patel , University of Washington, Assistant Professor • George Rittenhouse , Alcatel-Lucent, Chief Operating Officer, Software, Services, and Solutions Group • S. Shankar Sastry , University of California, Berkeley, Roy W. Carlson Professor and Dean of Engineering	Hall A
	The Future of Financing Energy Efficiency Lenders need high-quality information to invest in efficiency improvements at large scale. How can we address the unique challenges to financing improved energy efficiency in buildings, industry, and transportation? • Moderator - Richard Kauffman , U.S. Department of Energy, Senior Advisor to the Secretary of Energy • Jeff Bartos , Mark Group Inc., President and CEO • John Byrne , University of Delaware, Director and Distinguished Professor of Energy and Climate Policy, Center for Energy & Environmental Policy • Riggs Kubiak , Honest Buildings, CEO • Kerry O'Neill , Clean Energy Finance Center, Senior Advisor • Marshal Salant , Citi, Managing Director, Head of Alternative Energy Finance	Hall 5
	The Challenging Relationship between Energy, Water, and Agriculture Energy, water, and agricultural systems are inextricably linked. Many energy technologies are water intensive. Agriculture requires large, dependable sources of both water and energy. What are the risks and opportunities for advanced technologies in this space? • Moderator - David Biello , Scientific American, Associate Editor, Environment & Energy • Amol Deshpande , Kleiner Perkins Caufield & Byers, Investment Partner (Greentech) • Molly Jahn , University of Wisconsin-Madison, Laboratory of Genetics and Department of Agronomy & Center for Sustainability and the Global Environment, Professor • Anthony Janetos , Joint Global Change Research Institute, Director • Ellen Williams , BP, Chief Scientist	Hall C
	Making the Most of the Natural Gas Boom How can we get the best value from our natural gas resources? How can we respond to challenges in production and transportation use? • Moderator - Susan Tierney , Analysis Group, Managing Principal • Robert Cekuta , U.S. Department of State, Principal Deputy Assistant Secretary, Bureau of Energy Resources • John Deutch , Massachusetts Institute of Technology, Institute Professor of Chemistry • Russell Ford , Shell Exploration & Productions, Executive Vice President Onshore Gas for Upstream Americas • John Hanger , Eckert Seamans Cherin & Mellott, Special Member	Hall 2
4:00 PM	Closing Remarks • Arun Majumdar , ARPA-E, Director	Hall A
4:15 PM	Leadership Networking Reception All attendees encouraged to participate. Summit Close - 5:00 pm	Hall A

For better accuracy, zoom into an area of the floor plan.

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